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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/619,046

07/14/2003

Seung-Jae Han

129250-002171/US

6070

32498

7590

12/19/2008

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EXAMINER

NGUYEN, KHAI MINH

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

12/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/619,046	Applicant(s) HAN ET AL.	
	Examiner KHAI M. NGUYEN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7, 8, 11-14, 16, 18, 19, 22-27, 29, 31, 32, 35 and 36 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 9-10, 15, 17, 20-21, 28, 30, 33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's argument with respect to claim 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7-8, 11-14, 16, 18-19, 22-27, 29, 31-32, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newbury et al. (U.S.Pub-20020102976) in view of Salonaho (U.S.Pat-6208863).

Regarding claim 1, Newbury teaches a method for calculating a transmission characteristic threshold for use in assigning a user to one layer in a plurality of cells in a wireless communications network (fig.1, [0011]), said method comprising:

calculating a first balancing metric based on an operating characteristic of said first layer (abstract, [0006], and [0032]),

calculating a second balancing metric based on an operating characteristic of said second layer (abstract, [0006], and [0032]).

Newbury fails to specifically disclose adjusting said transmission characteristic threshold in response to the value of said first balancing metric relative to said second balancing metric.

However, Salonaho teaches adjusting (the pre-set threshold service time R is changed so that the number of mobile stations to be handed over to the target cell will change into the desired direction) said transmission characteristic threshold (criterion parameters) in response to the value of said first balancing metric (traffic level) relative to said second balancing metric (traffic level) (col.4, lines 4-13 and col.6, lines 3-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Salonaho to Newbury to provide balance the channel utility between the micro cell and macro cell.

Regarding claim 2, Newbury and Salonaho further teach the method of claim 1 further comprising the step of assigning said user (see Salonaho, col.7, lines 5-12) to a layer in response to the value of a first user transmission characteristic of a transmission from said user relative (see Salonaho, col.4, lines 4-13 and col.6, lines 3-21) to said adjusted transmission characteristic threshold (see Salonaho, col.4, lines 4-13 and col.6, lines 3-21).

Regarding claim 3, Newbury and Salonaho further teach the method of claim 1 wherein said transmission characteristic threshold is a threshold corresponding to the size of the data (criterion parameters) to be transmitted to or from said user (see Salonaho, col.6, lines 3-21).

Regarding claim 5, Newbury and Salonaho further teach the method of claim 1 wherein said transmission characteristic threshold is a threshold corresponding to the velocity of said user (see Newbury, abstract, [0006]).

Regarding claim 7, Newbury and Salonaho further teach the method of claim 1

wherein said first operating characteristic corresponds to an average number of users (see Newbury, [0028], and [0033]).

Regarding claim 8, Newbury and Salonaho further teach the method of claim 1 wherein said first operating characteristic corresponds to the expected system load as seen by said user (see Newbury, abstract, [0006]).

Regarding claim 11, Newbury and Salonaho further teach the method of claim 8 wherein said first balancing metric is determined by calculating the number of users in the first layer of said network (see Newbury, abstract, [0006], and [0032]) and said second balancing metric is determined by calculating the number of users in said second layer of said network (see Newbury, abstract, [0006], and [0032]).

Regarding claim 12, Newbury teaches apparatus for calculating a transmission characteristic threshold for use in assigning a user to one layer in a plurality of cells in a wireless communications network (fig.1, [0011]), said apparatus comprising:

means for calculating a first balancing metric based on an operating characteristic of said first layer (abstract, [0006], and [0032]);

means for calculating a second balancing metric based on an operating characteristic of said second layer (abstract, [0006], and [0032]); and

Newbury fails to specifically disclose adjusting said transmission characteristic threshold in response to the value of said first balancing metric relative to said second balancing metric.

However, Salonaho teaches adjusting (the pre-set threshold service time R is changed so that the number of mobile stations to be handed over to the target cell will

change into the desired direction) said transmission characteristic threshold (criterion parameters) in response to the value of said first balancing metric (traffic level) relative to said second balancing metric (traffic level) (col.4, lines 4-13 and col.6, lines 3-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Salonaho to Newbury to provide balance the channel utility between the micro cell and macro cell.

Regarding claim 13 is rejected with same reasons set forth in claim 2.

Regarding claim 14 is rejected with same reasons set forth in claim 3.

Regarding claim 16 is rejected with same reasons set forth in claim 5.

Regarding claim 18 is rejected with same reasons set forth in claim 7.

Regarding claim 19 is rejected with same reasons set forth in claim 8.

Regarding claim 22 is rejected with same reasons set forth in claim 11.

Regarding claim 23, Newbury teaches an assignment manager for assigning a user to one layer in a plurality of cell in a wireless communications network, said assignment manager (fig.1, [0011]) comprising:

a first circuit for calculating a first balancing metric based on an operating characteristic of said first layer (abstract, [0006], and [0032]);

a second circuit for calculating a second balancing metric based on an operating characteristic of said second layer (abstract, [0006], and [0032]); and

Newbury fails to specifically disclose a third circuit for adjusting a transmission characteristic threshold in response to the value of said first balancing metric relative to said second balancing metric.

However, Salonaho teaches third circuit for adjusting (the pre-set threshold service time R is changed so that the number of mobile stations to be handed over to the target cell will change into the desired direction) said transmission characteristic threshold (criterion parameters) in response to the value of said first balancing metric (traffic level) relative to said second balancing metric (traffic level) (col.4, lines 4-13 and col.6, lines 3-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the teaching of Salonaho to Newbury to provide balance the channel utility between the micro cell and macro cell.

Regarding claims 24, 26, and 36, Newbury and Salonaho further teach the assignment of claim 23 wherein said first circuit, said second circuit, said third circuit and said fourth circuit are the same circuit (see Newbury, fig.1, [0011]).

Regarding claim 25, Newbury and Salonaho further teach the assignment manager of claim 23 further comprising a fourth circuit for assigning said user (see Salonaho, col.7, lines 5-12) to a layer in response to the value of a first user transmission characteristic (see Salonaho , col.4, lines 4-13 and col.6, lines 3-21) of a transmission from said user relative to said adjusted transmission characteristic threshold (see Salonaho , col.4, lines 4-13 and col.6, lines 3-21).

Regarding claim 27, Newbury and Salonaho further teach the assignment manager of claim 23 wherein said transmission characteristic threshold is a threshold corresponding to the size of the data (criterion parameters) to be transmitted to or from said user (see Salonaho, col.6, lines 3-21).

Regarding claim 29, Newbury and Salonaho further teach the assignment manager of claim 23 wherein said transmission characteristic threshold is a threshold corresponding to the velocity of said user (see Newbury, abstract, [0006]).

Regarding claim 31, Newbury and Salonaho further teach the assignment manager of claim 23 wherein said first operating characteristic corresponds to an average number of users (see Newbury, [0028], and [0033]).

Regarding claim 32, Newbury and Salonaho further teach the assignment manager of claim 23 wherein said first operating characteristic corresponds to the expected system load as seen by said user (see Newbury, abstract, [0006]).

Regarding claim 35, Newbury and Salonaho further teach the assignment manager of claim 32 wherein said first balancing metric is determined by calculating the number of users in the first layer of said network (see Newbury, abstract, [0006], and [0032]) and said second balancing metric is determined by calculating the number of users in said second layer of said network (see Newbury, abstract, [0006], and [0032]).

Allowable Subject Matter

3. Claims 4, 6, 9-10, 15, 17, 20-21, 28, 30, and 33-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHAI M. NGUYEN whose telephone number is (571)272-7923. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571.272.7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617

/Khai M Nguyen/
Examiner, Art Unit 2617

12/16/2008